



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,996	10/07/2003	Laurent Gonthier	S1022.81051US00	4553

23628 7590 10/18/2004

WOLF GREENFIELD & SACKS, PC  
FEDERAL RESERVE PLAZA  
600 ATLANTIC AVENUE  
BOSTON, MA 02210-2211

EXAMINER
----------

NGUYEN, VINCENT Q

ART UNIT	PAPER NUMBER
----------	--------------

2858

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<p>Application No.</p> <p align="center">10/679,996</p>	<p>Applicant(s)</p> <p align="center">GONTHIER ET AL.</p>	
	<p>Examiner</p> <p align="center">Vincent Q Nguyen</p>	<p>Art Unit</p> <p align="center">2858</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br/> Paper No(s)/Mail Date <u>10/7/2003</u>.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/> Paper No(s)/Mail Date. ____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: ____.</p> |
|---|---|

## **DETAILED ACTION**

### ***Drawings***

1. Figures 1A, 1B, and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 4-11, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloomer (4,620,258).

Regarding claims 1, 2, 4, 5, Bloomer discloses a circuit for detecting an over current comprising (Figure 2A) a first comparator (14-1), assigned to the half waves of a first sign of the A.C. power supply (12), receiving on a reference input (15-1) a first reference voltage setting a first one of said thresholds (14-1a); a second comparator

(14-2), assigned to the half waves of a second sign of the A.C. power supply (12), receiving on a reference input (15-2) a second reference voltage setting a second one of said thresholds (14-2a); and an input stage providing (+v), to respective interconnected read inputs of the comparators (14-1, 14-2), a voltage proportional to said voltage across said element (11).

The only difference between Bloomer and the invention claimed is that the claim recites said stage comprising at least one first resistive element introducing a voltage drop between a first one of the terminals of the element and said read inputs in place of a predetermined voltage level +15V (Column 3, lines 54-68).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate at least one resistive element introducing a voltage drop between a first one of the terminals of the element and said read inputs into the system of Bloomer because getting a voltage divider (By the ratio of resistance) to obtain a desired voltage is a principle of Ohm law and because Bloomer taught that (Column 3, lines 54-68) the threshold voltage must be some predetermined value associated with device in the turn off condition.

Regarding claim 6, Bloomer discloses the outputs of the first and second comparators (14-1, 14-2) are combined.

Regarding claim 7, the only difference between Bloomer and the invention claimed is that the claim recites the outputs are combined by a logic two-input OR gate in a place of a two-input AND gate (32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the OR gate instead of the AND gate into the system of Bloomer because depends on how the output signal being processed, the OR gate is an alternative option for the AND gate since the OR gate or the AND gate does not require the detecting system (Comparator) to change its function.

Regarding claims 8, 10, Bloomer discloses the element that conducts an A.C. supply current is a bidirectional switch (10-1, 10-2).

Regarding claims 9, 11, Bloomer discloses the element that conducts an A.C. supply current is a resistor (11).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bloomer (4,620,258) in view of Milazzotto et al. (6,256,211).

Regarding claim 3, Bloomer does not disclose diodes in series connection.

Milazzotto et al. disclose a circuit for driving an AC electric load and further discloses diodes (D1, D2) in series connection (Figure 6) for the purpose of anti parallel connection (Column 4, lines 57-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the diodes as taught by Milazzotto et al. into the system of Bloomer et al. because in a circuit where anti-parallel connection is concerned, series diodes connection is one of the choice.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

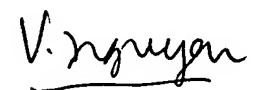
Patent No. 4,835,652 (Billings et al.) discloses a bi-direction protector in a DC power using first and difference amplifiers. The outputs of the difference amplifiers are combined to produce a control voltage signal having a magnitude that is proportional to the absolute value of the difference between voltages at the terminals

***Contact information***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent Q Nguyen whose telephone number is (571) 272-2234. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (571) 272-2233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
October 13, 2004

Vincent Q Nguyen  
Patent Examiner  
Art Unit 2858